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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Eric Ameres

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EXAMINER

CZEKAJ, DAVID J

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

02/16/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/713,807	Applicant(s) AMERES ET AL.	
	Examiner DAVID CZEKAJ	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49 and 54-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49 and 54-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

On page 2, applicant argues that Matsumura fails to disclose transmitting a vector from (a) only when it is the choice of coding mode selected. While the applicant's points are understood, the examiner respectfully disagrees. The examiner notes that transmitting a vector from (a) only when it is the choice of coding mode selected is different from only transmitting a vector from (a) when it is the choice of coding mode selected. Hence, Matsumura discloses in figures 4-8; column 9, lines 15-40, and column 11, line 54 - column 12, line 15, transmitting a vector from (a) only when it is the choice of coding mode selected. Therefore the rejection has been maintained.

On page 3, applicant argues that Okumura fails to disclose using an algorithm to select at least one vector from a predetermined set of prior coded blocks that are less than n blocks away from a current block where n is greater than 1. While the applicant's points are understood, the examiner respectfully disagrees. In a case where n is two, the limitation reads selecting at least one vector that are less than 2 blocks away from the current block. Hence, as seen in Okumura column 4, lines 1-29, selecting vectors from blocks above and to the left of the current block (one block away) is less than the two blocks away required by the claimed limitation. Therefore the rejection has been maintained.

On page 3, applicant argues that Okumura fails to disclose selecting a coding mode from the list of coding modes comprising the following choices. While the applicant's points are understood, the examiner respectfully disagrees. See for

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example Okumura column 4, lines 1-29 and column 4, lines 55-67. There Okumura discloses not using a motion vector at all (the zero motion vector). Therefore the rejection has been maintained.

On page 3, applicant argues that the references fail to disclose choosing when to transmit a motion vector and when not to transmit a motion vector and more particularly transmitting only the encoding mode and transmitting both the mode and related motion vector. While the applicant's points are understood, the examiner respectfully disagrees. The examiner notes that only transmitting the encoding mode is not found in the claim. What is found in the claim is encoding the choice of coding mode and transmitting a vector from (a) only when it is the choice of coding mode selected in which Okumura discloses in column 4, lines 1-67. Therefore the rejection has been maintained.

On page 4, applicant argues that it would not have been obvious for one skilled in the art to transmit a choice from a list of modes and to use a vector without encoding/transmitting the vector since the modes are not taught by the cited art. Please see the examiners comments above with respect to the current argument.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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1. Claims 49, 54-56, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (6125144), (hereinafter referred to as “Matsumura”) in view of Okumura et al. (6414995), (hereinafter referred to as “Okumura”).

Regarding claim 49, Matsumura discloses an apparatus that relates to a picture coding method (Matsumura: column 1, lines 6-10). This apparatus comprises “finding a block from a prior coded frame that best matches that block to be encoded and calculating a motion vector made from the difference in the row and column between the current and best matching block” (Matsumura: figures 4-8; column 9, lines 15-40; column 11, line 54 – column 12, line 15), “using the motion vector calculated above” (Matsumura: figures 4-8; column 9, lines 15-40; column 11, line 54 – column 12, line 15), and “transmitting a vector from (a) only when it is the choice of coding mode selected” (Matsumura: figures 4-8; column 9, lines 15-40; column 11, line 54 – column 12, line 15). However, this apparatus lacks the algorithm as claimed. Okumura teaches that prior art encoding devices fail to determine an appropriate motion vector (Okumura: column 2, lines 50-55). To help alleviate this problem, Okumura discloses “using an algorithm to select at least one motion vector from a predetermined set of prior coded blocks that are less than n blocks away from the current block” (Okumura: column 4, lines 1-29), “selecting a coding mode from a list comprising not using a motion vector at all and using the vector calculated above” (Okumura: column 4, lines 1-29; column 4, lines 55-67, wherein the no motion vector is the zero motion vector). Therefore, it would have been obvious to one having

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ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Matsumura and add the calculations taught by Okumura in order to obtain an apparatus that better helps determine an appropriate motion vector.

Regarding claim 54, although not disclosed, it would have been obvious to order the vectors according to the distance (Official Notice). Doing so would have been obvious in order to better help sort the vectors.

Regarding claims 55-56, although not disclosed, it would have been obvious to select only vectors that use the same prior coded frame as reference (Official Notice). Doing so would have been obvious in order to provide more consistent results by only using vectors that have the same reference frame.

Regarding claim 58, although not disclosed, it would have been obvious to calculate a compound motion vector through an average (Official Notice). Doing so would have been obvious in order to capture a better representation of the sample by performing an averaging operation.

2. Claims 57 and 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (6125144), (hereinafter referred to as "Matsumura") in view of Mukerjee et al. (7116831), (hereinafter referred to as "Mukerjee") in further view of Wu et al. (6418166), (hereinafter referred to as "Wu").

Regarding claim 57, note the examiners rejection for claim 1, and in addition, claim 57 differs from claim 1 in that claim 50 further requires differential encoding the block to the left and above. Wu teaches that minimizing the number of bits needed to encode the error signal does not necessarily result in

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the most efficient coding of the overall block (Wu: column 3, lines 25-32). To help alleviate this problem, Wu discloses “differentially encoding a vector from the vector of the block to the left if that block has a motion vector or the vector of the block above if that block has one but the vector does not and otherwise encodes the vector directly” (Wu: column 8, lines 43-59). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the motion vector processing taught by Wu in order to more effectively encode video data.

Regarding claim 59, Wu discloses “coding the row as differential from the vector of the block to the left and the column from the block above” (Wu: column 8, lines 43-59).

Regarding claim 60, Wu discloses “coding the vector between the above or left block if the vectors of the blocks to the left and above are similar” (Wu: figure 7; column 8, lines 43-59).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID CZEKAJ whose telephone number is (571)272-7327. The examiner can normally be reached on Mon-Thurs and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dave Czekaj/
Primary Examiner, Art Unit 2621